MIKHAYLOV, A.I.; VASIN, Yu.P.; STARTSEV, A.F.

Improving the surface smoothness of steel castings. Lit. proizv. no.3:36 Mr '64. (MIRA 18:9)

STARTSEV, A.M.

USSR/Engineering - Hydraulics, Structures Mar 52

"Application of Drop Gates in Navigation Sluice," A.M. Startsev, Engr

"Gidrotekh Stroi" No 3, pp 21-24

Discusses 2 systems of drop gate for upper lock-head: system with lock filling through water supply tunnels and those with filling through drop gate of upper lock-head. The latter has a number of advantages. States that gates for lower lock-heads require further improvement.

219T21

STARTSEV, A.M., inzhener.

Some defects in the working of protective grates for turbines of hydroelectric power plants. Gidr.stroi 23 no.6:34-36 '54. (MLRA 7:9)
(Hydraulic turbines)

STARTSEV, A.M., inzh.

Floating gates. Gidr.stroi. 26 no.10:43-45 O '57. (MIRA 10:10)
(Locks (Hydraulic engineering))

AUTHOR: Startsev, A.M. SOV-115-58-4-11/45

TITLE: A Device for Checking the Diameters of Internal Thread Gages (Prisposobleniya dlya poverki diametrov rez'bovykh kalibrov-probok)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 4, pp 23 (USSR)

ABSTRACT: The described device is used to check the mean and outside diameters of thread and smooth internal-gages using a horizontal optical indicator in a vertical position and without altering the design of the optical indicator's object stand. It consists of a sliding bracket containing the top adjustable center and moving on a vertical column which is fixed to the optical indicator's object stand. The lower center is also fixed to the stand, and the internal gage to be measured is fitted between the two centers. There is 1 photo.

1. Gages--Calibration

Card 1/1

SOV/115-58-5-9/36

AUTHOR: Startsev, A. M.

TITLE: An Indicating Hole Gauge for Deep Holes (Indikatornyy nutromer dlya glubokikh otverstiy)

PERIODICAL: Izmeritel'naya tekhnika, 1958, Nr 5, p 19 (USSR)

ABSTRACT: The device is based on the use of a standard indicating hole gauge of the "Kalibr" Plant to which is connected a micrometric hole gauge extension, developed by the Chelyabinskiy instrumental'nyy Zavod (Chelyabinsk Tool Plant). Construction details are given. There is 1 diagram.

Card 1/1

STARTSEV A.M.

AUTHOR: Startsev, A.M., Engineer 98-58-6-17/21

TITLE: Letter to the Editors (Pis'mo v redaktsiyu)

PERIODICAL: Gidrotekhnicheskoye Stroitel'stvo, 1958, Nr 6, p 50 (USSR)

ABSTRACT: This is an apology by the author for not having mentioned in his article "On Floating Locks", published in Nr 10 of this periodical for 1957, the name of Professor V.G. Gebel, the inventor of a "floating lock for reservoirs".

AVAILABLE: Library of Congress

Card 1/1 1. Reservoirs-Equipment 2. Literature-USSR

PAPYENOV, Aleksey Grigor'yevich; STARTSEV, Andrey Maksimovich; TRESKINA, T.N., red.; BOL'SHAKOVA, L.A., tekhn.red.

Kotlas. Arkhangel'sk, Arkhangel'skoe knizhnoe izd-vo, 1959. 95 p. (MIRA 12:10)
(Kotlas--Economic conditions)

SOV/115-59-6-13/33

25(1), 28(1)

AUTHOR: Startsev, A.M.

TITLE: A Deflectometer

PERIODICAL: Izmeritel'naya tekhnika, 1959, Nr 6, p 31 (USSR)

ABSTRACT: The author developed a device for determining concave or convex deformations on parts of small or large dimensions having been manufactured or repaired. The author furnishes a brief description of this deflectometer based on a diagram. There is 1 diagram.

Card 1/1

DOBROSEL'SKIY, Konstantin Mikhaylovich; ALEKSEYEV, V.D., retsenzent; MISHURIS, B.I., retsenzent; STARTSEV, A.N., retsenzent; SURZHIN, S.N., retsenzent; MANYUKOV, G.S., inzh., red.; BOBROVA, Ye.N., tekhn. red.

[Maneuvering in railroad stations] Manevry na zheleznodorozhnykh stantsiiakh. Izd.2., perer. i dop. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 207 p. (MIRA 14:11)

(Railroads—Stations)

SEDYKH, Yu.V., otv. red.; PETUKHOV, P.I., red.; REZNIKOV, F.I., prof., red.; STARTSEV, A.V., red.; SHESHIN, S.S., kand. sel'khoz.nauk, red.; SOKOLOVA, S.I., tekhn. red.

[Costs, business accounting and profitableness on collective farms] Sebestoimost', khozraschet i rentabel'nost' v kolkhozakh. Vologda, Vologodskoe knizhnoe izd-vo, 1963. 102 p. (MIRA 16:12)

1. Zaveduyushchiy sel'skokhozyaystvennym otdelom oblastnogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza, Cherepovetskoye proizvodstvennoye upravleniye (for Sedykh).
(Collective farms--Finance)

ZENKOV, L.F.; STARTSEV, A.V.

Idling of railroad cars unforeseen by planning at the Upper Kama potash combine. Nauch. trudy PermNIUI no.5:129-133 '63. (MIRA 18:3)

NAUMOV, Georgiy Karpovich; SILAYEV, Nikolay Ionovich; STEFANOV, Nikolay Yakovlevich; USHAKOV, Pavel Semenovich; CHERNUKHA, Nikolay Timofeyevich; BERZHIGAL, Lazar' Davidovich; STARTSEV, A.N., inzh., retsenzent; KOLTUNOVA, M.P., red.; BORROVA, Ye.N., tekhn.red.

[Economics of the work of railroad stations] Ekonomika raboty stantsii. Moskva, Vses.izdatel'sko-poligr.Ob"edinenie M-va putei soobshcheniia, 1961. 262 p. (MIRA 14:6)
(Railroads--Stations)

STARTSEV, A.Ya., inzhener.

Producing reinforced concrete ceiling panels at the construction site of the Palace of Culture and Science in Warsaw. Biul.stroi.tekh. 13 no.10:10-12 O '56. (MLRA 10:1)
(Warsaw--Concrete slabs)

PETELINA, V.S.; STARTSEV, B.Ya.; Prinimali uchastiye: KOTOVA, L.A., laborant; TRUSOVA, M.I., laborant; TEMNOGRUDOVA, L.G., laborant; TURKOVA, N.A., laborant

Regeneration of alkali from the sulfide alkalies of desulfurized petroleum-products. Neftepер. i neftekhim. no.9:25-27 '63. (MIRA 17:8)

1. Nauchno-issledovatel'skiy institut khimii, g. Saratov.

PETELINA, V.S.; STARTSEV, B.Ya.; Prinimali uchastiye: KOTOVA, L.A., laborant; TRUSOVA, M.I., laborant; TEMNOGRUDOVA, L.G., laborant; TURKOVA, N.A., laborant

Problem of the recovery of alkali from sulfide waste liquors. Zhur.prikl.khim. 38 no.6:1212-1216 Je '65. (MIRA 18:10)

1. Nauchno-issledovatel'skiy institut khimii Saratovskogo gosudarstvennogo universiteta imeni N.G.Chernyshevskogo.

STARTSEV, D.

Machine-Tractor Stati ns

Preparing production and financial plans of machine-tractor stations on time and properly., MTS, 12, no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1958, Unclassified.

STARTSEV, D.; KOLESNEV, S., zasluzhennyy deyatel' nauki; BOYEV, V.; KHOROKHORIN, D.; SKURIKHIN, I.; KHOKHLOV, Ye.; BUYANOV, I., dvazhdy Geroy Sotsialisticheskogo Truda; TROFIMOV, A.; STEPANOV, N.; FEDOTOV, S.

The road toward new achievements. Sots. trud. no.4:14-36 Ap '58. (MIRA 11:4)

1. Starshiy ekonomist TSentral'nogo planovo-ekonomicheskogo upravleniya Ministerstva sel'skogo khozyaystva SSSR (for Startsev). 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I. Lenina (for Kolesnev). 3. Zaveduyushchiy sektorom ekonomicheskogo stimulirovaniya sel'skokhozyaystvennogo proizvodstva Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I. Lenina (for Boyev). 4. Zaveduyushchiy sel'skokhozyaystvennym otdelom Moskovskogo komiteta Kommunisticheskoy partii Sovetskogo Soyuza (for Khorokhorin). 5. Zaveduyushchiy kafedroy ekonomiki i organizatsii sel'skokhozyaystvennogo proizvodstva Ivanovskogo sel'skokhozyaystvennogo instituta (for Skurikhin). 6. Nachal'nik Spetsial'nogo konstruktorskogo byuro zavoda sel'khozmashin im. Ukhtomskogo (for Khokhlov). 7. Predsedatel' kolkhoza "Vernyy put'," Ivanovskogo rayona, Ivanovskoy oblasti (for Trofimov). 8. Glavnyy agronom Ramenskoy mashinno-traktornoy stantsii (for Stepanov). 9. Sekretar' partiynoy organizatsii Ramenskoy mashinno-traktornoy stantsii (for Fedotov). 10. Predsedatel' kolkhoza im. Vladimira Il'icha (for Buyanov).

(Machine-tractor stations) (Collective farms)

STARTSEV, D.A.

GOMEL'SKIY, K.Z.; D'YACHKOV, P.N.; RODIGINA, R.N.; STARTSEV, D.A.

Tubular furnace for temperatures up to 1600°. Zav.lab.21 no.4:494 '55 (MLRA 8:6)

1. Sverdlovskiy filial Vsesoyuznogo nauchno-issledovatel'skogo instituta metrologii imeni D.I.Mendeleyeva.
(Electric furnaces)

MAMYKIN, P.S., doktor tekhn. nauk, prof.; STARTSEV, D.A., assistent; D'YACHKOV, P.N., inzh.

Refractory bushings for continuous casting of non-ferrous metals. Trudy Ural. politekh. inst. no.117:8-14 '62. (MIRA 16:6)

(Refractory materials)
(Continuous casting—Equipment and supplies)

STRELOV, K.K.; MAMYKIN, P.S.; Prinimali uchastiye: BAS'YAS, I.P.; BICHURINA, A.A.; BRON, V.A.; VECHER, N.A.; VOROB'YEVA, K.V.; D'YACHKOVA, Z.S.; D'YACHKOV, P.N.; DVORKIND, M.M.; IGNATOVA, T.S.; KAYBICHEVA, M.N.; KELAREV, N.V.; KOSOLAPOV, Ye.F.; MAR'YEVICH, N.I.; MIKHAYLOV, Yu.F.; SEMKINA, N.V.; STARTSEV, D.A.; SYREYSHCHIKOV, Yu.Ye.; TARNOVSKIY, G.I.; FLYAGIN, V.G.; FREYDENBERG, A.S.; KHOROSHAVIN, L.B.; CHUBUKOV, M.F.; SHVARTSMAN, I.Sh.; SHCHETNIKOVA, I.L.

Institutes and enterprises. Ogneupory 27 no.11:499-501 '62. (MIRA 15:11)

1. Vostochnyy institut ogneuporov (for Strelov). 2. Ural'skiy politekhnicheskiy institut im. S.M. Kirova (for Mamykin).
(Refractory materials--Research)

STARTSEV, D. I.

21923 STARTSEV, D. I.
Metody raboty laureata stalinskoy premii vootekhnika Shteymana. Sots. zhivotnovodstvo, 1949, No 2,s. 49-55.

SO: Letopis' Zhurnal'nykh Statey, No. 29, Moskva, 1949.

STARTSEV, S. I.,

Agriculture & Plant & Animal Industry.

Simmenthal cattle. Moskva, 1951.

Monthly List of Russian Accessions, Library of Congress, April 1952. Unclassified.

STARTSEV, D. I.

Machine-Tractor Stations

Work practice of a machine-livestock station, Sots. zhiv., 14, No. 8, 1952.

Monthly List of Russian Accessions Library of Congress November 1952 UNCLASSIFIED.

1. STARTSEV, D. I.

2. USSR (600)

4. Cattle Breeding - Altai Territory

7. Creation of new breeds of cattle in the Altai. Trudy VIZh 20, 1952.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

1. STARTSEV, D. I.
2. USSR (600)
4. Stock and Stockbreeding
7. Stockbreeding along pure breed lines, 8, No. 3, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April, 1953, Uncl.

STARTSEV, D. I.

SABANTSEV, M.V.; STARTSEV, D.I.

Effect of massage of the udder in calves on microstructure of the mammary gland and milk production in cows. Zhur. ob. biol. 15 no.4: 263-268 Jl-Ag '54. (MLRA 7:9)

(BREAST,
udder, eff. of massage in calves on microstructure & lactation in adult cows)

(LACTATION,
eff. of udder massage in calves on microstruction & lactation in adult cows)

[illegible] V, N. I.

Startsev, D. I. -- "Methods of Developing and Perfecting Simenthal-Type Cattle in the USSR." All-Union Sci Res Inst of Animal Husbandry. Moscow, 1956. (Dissertation for the Degree of Doctor in Agricultural Science)

So: Knizhnaya Letopis', No 12, 1956

STARTSEV, Dmitriy Ivanovich; ROMANOVICH, Ye.F., redaktor; PAVLOVA, M.M., tekhnicheskiy redaktor

[Methods of developing and inproving yellow spotted cattle in the U.S.S.R.] Metody sozdaniia i sovershenstvovaniia palevo-pestrogo skota v SSSR. Moskva, Gos. izd-vo selkhoz. lit-ry, 1956. 406 p. (MLRA 10:1)
(Cattle breeds)

Q-2

USSR/Farm Animals - Cattle.

Abs Jour : Ref Zhur - Biol, No 1, 1959, 2645

Author : Bogarev, D.I., Filipson, V.I.

Inst : All-Union Scientific-Research Institute of Animal Husbandry.

Title : The Interbreeding of Cattle in Altay.

Orig Pub : Tr. Vses. n.-i. in-ta zhivotnovodstva, 1957, 21, 58-70.

Abstract : Three-breed hybrids (fathers of Kostromsk Breed x mothers of Siberian-Simmenthaler Hybrid Breed) in Altay proved to be superior to two-breed hybrids (Siberian-Simmenthaler) with respect to milk fat content and milk yield, under equal milking conditions. Also, they proved superior to Siberian cattle and Simmenthaler hybrids with respect to fattening and beef qualities. After first lactation, these three-breed hybrids (n = 19) in the Troitskiy

Card 1/2

STARTSEV, D.I., dots. sel'skokhozyaystvennykh nauk.

The problem of the breed of farm animals. Zhivotnovodstvo 20 no.3: 60-62 Mr '58. (MIRA 11:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zhivotnovodstva.
(Stock and stockbreeding)

LOBANOV, P.P., BREZHNEV, D.D., ROSTOVTSEV, N.F., POPOV, I.S., NIKOLAYEV, A.I., SMETNEV, S.I., BURLAKOV, N.M., ARZUMANYAN, Ye.A., BARYSHNIKOV, P.A., BELYAYEV, N.M., BLOMKVIST, M.S., BORISENKO, Ye.Ya., BURDELEV, T.P., BYCHKOV, N.P., VSYAKIKH, A.S., DAVIDOV, R.B., KUDRYAVTSEV, P.N., KUSHNER, Kh.F., LEVANTIN, D.L., NOVIKOV, Ye.A., OZEROV, A.V., STARTSEV, D.I., SUKHANOV, N.P., SHVABE, A.K., YURMALIAT, A.P., [Jurmalietis, A.P.].

In memory of Academician Efim Fedotovich Liskun. Zhivotnovodstvo 20 no. 7:84-85 Jl '58.
(Liskun, Efim Fedotovich, 1873-1958)

STARTSEV, D.I., doktor sel'skokhoz.nauk

A good example of the generalization of foreign experience in animal husbandry ("Stockbreeding in Denmark" by E.I.Bugrimov. Reviewed by D.I.Startsev.) Zhivotnovodstvo 21 no.7:89-93 Je '59. (MIRA 12:9)

(Denmark--Stock and stockbreeding)
(Bugrimov, E.I.)

BURLAKOV, N.M., otv. red.; STARTSEV, D.I., professor, otv. red.; NECHIPORUK, L.P., red.; DEYEVA, V.M., tekhn. red.

[Stockbreeding; cattle] Skotovodstvo; krupnyi rogatyi skot. V dvukh tomakh. Moskva, Gos. izd-vo sel'khoz. lit-ry. Vol.1. 1961. 420 p. (MIRA 14:7)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V.I.Lenina (for Burlakov)
(Cattle)

BURLAKOV, N.M., otv. red.; STARTSEV, D.I., professor, otv. red.; GRIGOR'YEV, Ye.P., red.; DEYEVA, V.M., tekhn. red.

[Stockbreeding; cattle] Skotovodstvo; krupnyi rogatyi skot. V dvukh tomakh. Moskva, Gos.izd-vo sel'khoz. lit-ry. Vol.2. 1961. 315 p. (MIRA 14:7)

1. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk im. V I.Lenina (for Burlakov)
(Cattle)

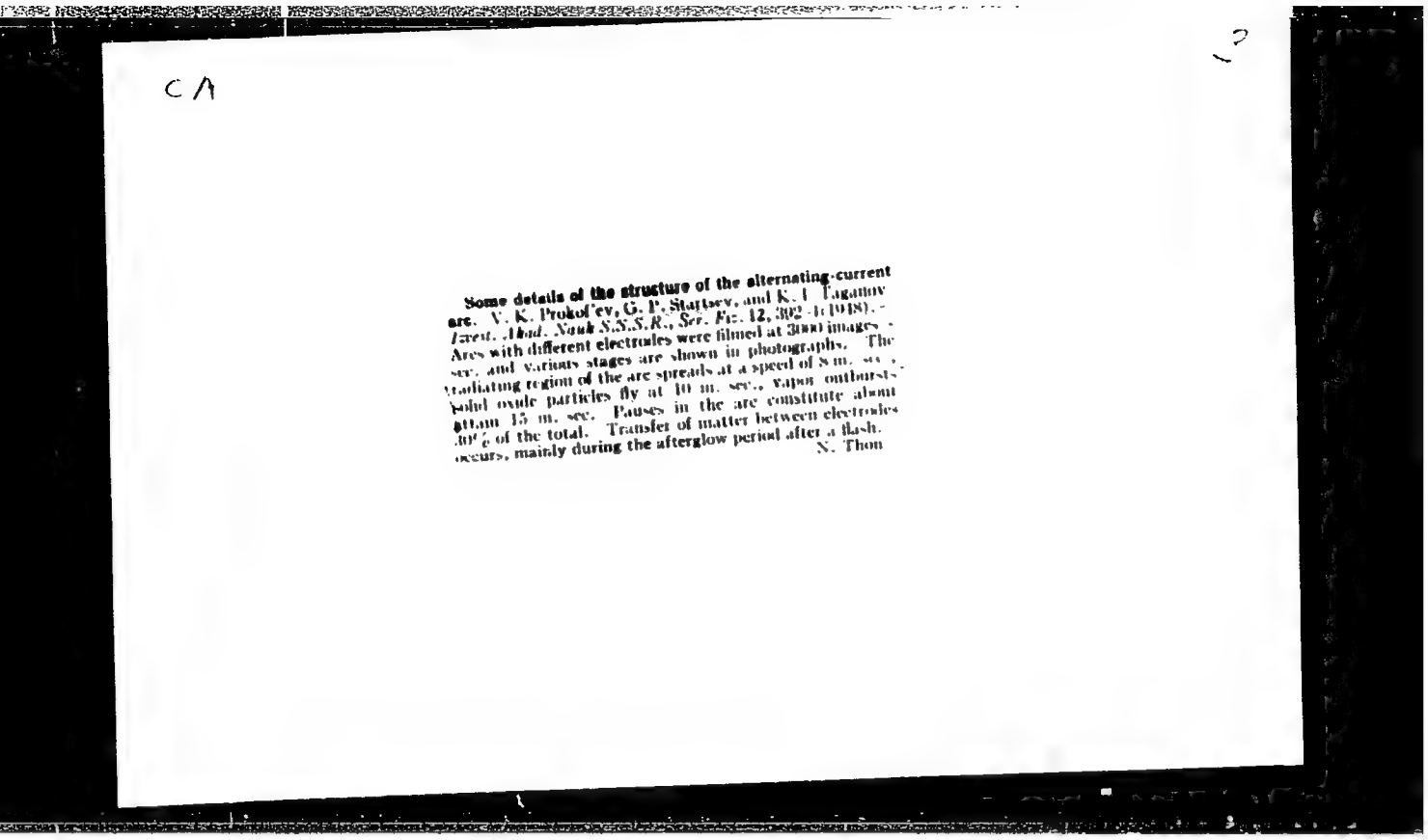
STARTSEV, D.I., prof.; POLYAKOVA, A.I., red.

[Selection work in breeding stations] Selektsionnaia rabota v plemennykh zavodakh. Moskva, Rossel'khozizdat, 1965. 245 p. (MIRA 19:1)

STARTSEV, F.

Combine state financial control with public control. Fin. SSSR. 23 no.1:56-60 Ja '62. (MIRA 15:2)

1. Zaveduyushchiy Novosibirskim oblastnym finansovym otdelom.
(Novosibirsk Province—Finance)



CA

Some details of the structure of the alternating-current arc. V. K. Prokof'ev, G. P. Startsev, and K. I. Taganov *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 302–16 (1948).—Arcs with different electrodes were filmed at 3000 images sec. and various stages are shown in photographs. The radiating region of the arc spreads at a speed of 8 m. sec., solid oxide particles fly at 10 m. sec., vapor outbursts attain 15 m. sec. Pauses in the arc constitute about 30% of the total. Transfer of matter between electrodes occurs, mainly during the afterglow period after a flash.
N. Thon

STARTSEV, G. P.

"Study of Anomalous Dispersion in Vapors of Alkaline Metals With the Aid of a Three-Ray Interferometer." Cand Phys-Math Sci, State Optical Inst imeni S. I. Vavilov, Leningrad, 1954. (KL, No 1, Jan 55)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (12)
SO: Sum. No. 556, 24 Jun 55

STARTSEV, G. .

1311. Izucheniye anomal'noy dispersii v parakh shchelochnykh metallov s pomoshch'yu trekhluchevogo interferometra. (L.), 1954. 12s. 20sm. (Gos. ordena Lenina optich. in-t im. S. I. Vavilov). 100 ekz. B. ts. --(54-52848).

SO: Knizhnaya Letopis, Vol. 1, 1955

Startsev, G. P.

USSR

A three-ray interferometer for the study of anomalous dispersion. G. P. Startsev. *Doklady Akad. Nauk S.S.S.R.* 95, 1181–4(1954).—An interferometer is described where a diffraction pattern is obtained by using 3 rays. These rays are equidistant when entering the collecting lens, but by a suitable arrangement of reflecting mirrors the middle ray is made to pass through a tube containing a sample of the substance under investigation. By measuring the distances between corresponding parts of the diffraction pattern on both sides of an absorption line a higher degree of accuracy is obtained than with other methods. The method is used to det. the relative oscillator strength of the 2 lines of the Cs doublet 4555.4 and 4593.2 A. The result is $f_2/f_1 = 1.22 \pm 0.03$. R. Gorn

GERASIMOVA, N.G.; IVANOVA, T.F.; SVENTITSKIY, N.S.; STARTSEV, G.P.; TAGANOV, K.I.; TRENTOVIUS, M.E.

Spectral determination of hydrogen in metals. Izv.AN SSSR.Ser fiz. 19 no.2:147-148 Mr-Ap '55. (MLRA 9:1)
(Tartu--Spectrum analysis--Congresses)

AUTHORS: Morozova, N.G. and Startsev, G.P. 51-3-16/24

TITLE: On the spectrum of ionized uranium. (O spektre ionizovannogo urana).

PERIODICAL: "Optika i Spektroskopiya" (Optics and Spectroscopy), 1957, Vol.2, No.3, pp.382-384 (U.S.S.R.)

ABSTRACT: The sources were a high-voltage condensed spark and a low-voltage pulse generator (10^{-3} - 10^{-5} sec produced by a discharge of 1000-2000 μF capacitors charged to 250-300 V). Brickettes consisting of 1-10% of U_3O_8 and copper powder were used. Both quartz and glass spectrographs were used. Spectrum of pure copper was recorded alongside the uranium spectrum in order to exclude the copper lines in the interpretation. A table gives wavelengths (with 0.02-0.03 Å error) and intensities (estimated by eye) of 69 uranium lines between 2472 and 3468 Å. From the behaviour of the lines with variation of impedance of the source circuits and the behaviour of the copper lines and from a discussion of the energy-level scheme of ionized uranium it is concluded that the recorded lines belong to U^{+++} and more highly ionized uranium. There are 2 figures (one plate with record of lines); 2 tables and 10 references, 4 of which are Slavic.

Card 1/1

SUBMITTED: August 29, 1956.
AVAILABLE:

DVORNIKOVA, I.V.; STARTSEV, G.P.; GOLOVANOVA, M.N.

Measuring the concentration of atoms in a d.c. arc from the self-reversal of spectrum lines. Fiz.sbor. no.4:61-64 '58. (MIRA 12:5)

1. Gosudarstvennyy ordena Lenina opticheskiy institut imeni S.I.Vavilova.

(Electric arc) (Spectrum, Atomic)

AUTHORS: Morozova, N. G., Startsev, G. P. SOV/48-22-6-13/28

TITLE: The Isotopic Displacement of Lines in the Spectrum of Ionized Uranium (Izotopicheskoye smeshcheniye liniy v spektre ionizovannogo urana)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1958, Vol. 22, Nr 6, pp. 686-691 (USSR)

ABSTRACT: The isotopic effect in the uranium spectrum was discovered and investigated (in non-Soviet countries) on the lines UI and UII (Refs 1-4). The most accurate and detailed description was, however, given by A. P. Striganov and L. A. Korostyleva, namely with respect to the determination of the dependence of the displacements on electron configurations and determination of the displacement in the terms. The rules governing the isotopic displacements in the uranium spectrum were experimentally determined on this occasion. As a result of the investigation of displacements in classified lines between the isotopes U^{238} and U^{235} also the rules governing isotopic displacement in the uranium spectrum were determined. All lines, of which the lower terms relate to the configurations with passing-through s^2- and s-electrons are

Card 1/3

characterized by the greatest (and negative) displacements. The lines, the lower terms of which belong to the higher electron configurations with non-penetrating f- and d-electrons are characterized by less considerable and only positive displacements. A table compares the results obtained by Striganov (Ref 5) and McNally (Ref 3) respectively. An earlier paper (Ref 6) dealt with a spectrum of ionized uranium (U^+). It was proved in the course of this paper as a result of further investigation that in this case three-times ionized uranium (U^{+++}) was concerned. The investigation of the isotopic displacement of the lines in the ionized uranium spectrum was carried out in this case with the aid of a concave diffraction net (600 mm^{-1}, 5,2 m diameter) and by means of the device developed by Pashen-Runge. A low-voltage pulsed discharge with a minimum of inductivity, in which the VG -236 tube was used, served as source. A table shows the results obtained by measuring about 200 different λ-values (between 2394,124 and 4377,026 Å). There are 2 figures, 2 tables, and 6 references, 2 of which are Soviet.

The Isotopic Displacement of Lines in the Spectrum of Ionized Uranium

SOV/48-22-6-13/28

1. Uranium isotopes (Radioactive)--Spectra 2. Ionized uranium--Spectra

Card 3/3

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E201/E691

5.4130

AUTHORS: Gruzdev, P.F. and Startsev, G.P.

TITLE: Some Criteria of Applicability of the Theoretical Intensities to the Spectra of Complex Atoms in the Case of LS-Coupling

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 6, pp 879-880 (USSR)

ABSTRACT: The authors deal with the limits of applicability of theoretical atomic spectral intensities, calculated on the assumption of normal LS-coupling and tabulated by Goldberg et al (Ref 1). Since the assumption of normal LS-coupling is only an approximation for complex atoms the authors suggest and illustrate the following two criteria of applicability of the theoretical intensities: (1) the differences between the measured and theoretical values of Lande's g-factor should not exceed 0.030-0.050 (Figs 1 and 2), and (2) departures from the "interval rule" should not, in general, be greater than ~20%. There are 2 figures and 7 references, 2 of which are Soviet, 4 English and 1 German.

SUBMITTED: May 29, 1959

Card 1/1

Measurement of the arc temperature ...

$$T_m = \frac{T_s}{1 + \frac{kT_s}{h\nu} \ln [MY_m(p)]}, \qquad (2).$$

$M_{rp} = \sqrt{ev_i/evn}$ † holds for lines whose lower terms are considerably higher than the ground state. $v_{i,k}$ * are the excitation potentials of the upper and lower levels. If the broadening of the lines is caused by electrons, then T_m is slightly smaller than when calculated according to (2). The intensities of the self-reversal maxima were determined from 8 (later from 4) lines of the iron spectrum by means of a spectrograph with plane grating. All lines studied are asymmetrical, (obviously because of the asymmetrical light source), with the maximum on the long-wave side. The width of the entrance slit was taken into account by a correction of 100-120°K. The errors of 20-25% in the determination of the absolute intensities give rise to an error of 5 to 6% in the temperature of the central part of a d-c arc: $T_m = (4560 \pm 200)$°K at U = 350 v and I = 2.2 a, and $T_m = (5070 \pm 200)$°K at U = 110 v and I = 5 a. These values show that the

Card 2/3 † ABSTRACTED CORRECTLY, BUT SHOULD READ $\sqrt{2V_i/2V_k}$; * Should be $V_{i,k}$

S/048/62/026/007/021/030
B125/B104

Measurement of the arc temperature ...

present method can be applied to arc-type light sources. There are 1 figure and 2 tables.

Card 3/3

39223
S/048/62/026/007/022/030
B125/B104

44 370

AUTHORS: Morozova, N. G., and Startsev, G. P.

TITLE: The lines of the iron arc spectrum for determining the arc temperature by the emission method

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26, no. 7, 1962, 929-933

TEXT: The temperature of the d-c arcs with 110 and 220 v and of a-c arcs was determined from 17 lines of the visible iron spectrum. The a-c arc was fed by an СП-42 (SP-42) generator with electronic control. The electrodes consisted of pointed armco iron and copper rods. The spectra were taken by means of an ИСП-28 (ISP-28) and a КСА-1 (KSA-1) spectrograph and an instrument with plane diffraction grating. The lines used should have various upper-level energies and lie within a comparatively wide range of wavelengths; they should be free from interferences, not superposed by neighboring lines; their intensities should not differ notably, and their self-absorption should be low. The temperature of the d-c arc between iron electrodes determined in such a way rises from

Card 1/2 SEE S/048/62/026/007/021/030

The lines of the iron arc spectrum ...

$(4350 \pm 100)^{\circ}$K at 1 a to $(4850 \pm 100)^{\circ}$K at 5 a. The different measuring apparatus gave the same results under identical conditions. The temperature decreases comparatively slowly from the center of the arc (5000°K) to its edge. It is $\sim 4000^{\circ}$K at a distance of 1 mm from the center of the arc. This radial temperature distribution was determined by turning the image of a 2-a arc burning between an iron electrode and a copper electrode by 90° and by projecting this image to the slit of a spectrograph. There are 3 figures and 4 tables.

Card 2/2

ACCESSION NR: AP4035469

with 600 lines/mm. The dispersion of the instrument was about 2 Å/mm in the second order. The spectra were recorded photographically in the temperature range from 1750 to 2020°K at residual gas pressures of 0.4 to 1.2 mm Hg or with continuous pumping, i.e., at a pressure of a few hundredths of an mm Hg. The sources were discharge tubes, the desired sections of the spectrum being isolated by different light filters. The results are tabulated and some values are compared with the data of R. B. and A.S.King (Astrophys.J. 87,24,1938). The comparison indicates that some of the King & King values are questionable, particularly, those for the spectral region below 3000 Å. The accuracy of the present measurements is evaluated on the basis of analysis of all possible sources of change and systematic errors. The final conclusion is that the method of total absorption is suitable for obtaining the values of relative oscillator strengths, including those for transitions giving rise to lines in the ultraviolet region. Orig.art.has: 8 formulas, 1 figure and 2 tables.

ASSOCIATION: none

SUBMITTED: 30May63 DATE ACQ: 22May64 ENCL: 00

SUB CODE: OP NR REF SOV: 005 OTHER: 008

Card 2/2

ACCESSION NR: AP4035470 S/0051/64/016/005/0724/0728

AUTHOR: Frish, M.S.; Startsev, G.P.

TITLE: Results of some studies of the spectroscopic characteristics of a plasmatron

SOURCE: Optika i spektroskopiya, v.16, no.5, 1964, 724-728

TOPIC TAGS: plasmatron, plasma source, light source, spectroscopy source, plasma temperature, plasma jet, argon

ABSTRACT: Although plasma jet (or stream) generators are now fairly extensively used as sources in analytic and scientific spectroscopy, not enough is known regarding their spectral characteristics. The purposes of the present work were to investigate the processes of entry of the anode and cathode material into the discharge, to determine the jet temperature and to elucidate the character of the discharge from the nozzle. The experiments were carried out using a slightly modified version of a plasmatron of the type described by M.Margoshes and B.F.Scribner (Spectrochem. Acta.,14,138,1959) and V.D.Artamonov, E.I.Granovskiy,and P.A.Koka (Trudy* KazIMS, No.2,1960). The design provided for interchange of the nozzles (the nozzle serves as the cathode). The cooling gas, introduced tangentially to the chamber walls, was ap-

Card 1/3

ACCESSION NR: AP4035470

gon, containing less than 0.2% impurities. The measurements were carried out for current strengths from 15 to 30 amperes and gas flow rates from 360 to 1600 liters per hour, i.e., in the range of common operating conditions. The electrodes were of copper, carbon or iron. The spectrograms were photographed (and subsequently scanned with a microphotometer) by means of a spectrograph with a plane 600 lines/mm grating and a focal length of 4 meters (reciprocal dispersion about 4.1 Å/mm). In addition to spectrograms, there were obtained time-resolved oscillograms (output of a photomultiplier) of the radiation from the plasma jet. Analysis of the spectrograms indicated that there are present in the jet spectrum the lines of argon and the cathode material, but no lines of the anode material. The values of the excitation temperature (determined with reference to the intensities of Fe I lines) are of the order of 5000°K; the temperature values deduced for the constricted jet from the 2 mm diameter nozzle lie in the range from 11 400 to 14 300°K. The electron and argon atom and ion concentrations are evaluated on the basis of the temperature. It is concluded that a plasma jet generator of the given type is a good source of high temperature argon plasma, which is discharged from the nozzle in a state close to thermodynamic equilibrium. "In conclusion, the authors express their gratitude to Ye.D.Mishchenko for making available the photoelectric equipment." Orig.art.has: 6 formulas, 4 figures and 2 tables.

Card 2/3

L 14053-65 ASD(f)-2/ASD(m)-3/BSD/RAEM(c)/ESD(gs)

ACCESSION NR: AP4044841 S/0051/64/017/003/0327/0332

AUTHOR: Morozova, N. G.; Startsev, G. P.

TITLE: Absolute oscillator strengths of arc-spectrum lines of atoms of the iron group

SOURCE: Optika i spektroskopiya, v. 17, no. 3, 1964, 327-332

TOPIC TAGS: ac arc, spectrum line, oscillator strength, iron, titanium, vanadium, chromium, cobalt, nickel

ABSTRACT: The purpose of this investigation was to ascertain whether measurements of relative oscillator strengths by means of a method based on emission in an a-c arc really satisfy the conditions that must be satisfied if they are to yield the absolute values of the oscillator strengths, namely, that the relative content of the elements be the same in the solid and in the vapor phase of the plasma. The method was used to obtain absolute values for 22 lines of titanium, vanadium, chromium, iron, cobalt, and nickel by comparison with known absolute f-values for the manganese lines, which are known from other sources. The procedure employed was developed earlier

Card 1/6

L 14053-65
ACCESSION NR: AP4044841

by one of the authors (N. G. Morozova, ZhOKh, v. 12, 185, 1957) for spectral analysis purposes, in which the composition of the samples did not affect the relative intensity of the spectral lines. The preparation of the samples and the test procedures are described in detail. The measured results are in good agreement with data obtained by the absorption and anomalous dispersion method. Some discrepancies with results of others are briefly interpreted. Orig. art. has: 2 figures, 3 formulas, and 3 tables.

ASSOCIATION: none

SUBMITTED: 29Jul63 ENCL: 04

SUB CODE: OP NO REF SOV: 010 OTHER: 012

Card 2/6

L 14053-65
ACCESSION NR: AP4044841

ENCLOSURE: 01

Comparison of Cr, Fe, and Mn f-values

Элемент	Мультиплет	Переход	J—J	Длина волны, Å	Энергия верхнего уровня, эв	настоящая работа	аномальная дисперсия, [10]
Mn	2	$a^6S—z^6P^0$	$^5/_2—^7/_2$	4030.75	3.06	0.056 •	0.056
Cr	1	$a^7S—z^7P^0$	3—4	4254.35	2.90	0.080	0.10
	1		3—2	4289.72	2.88	0.042	0.055
Fe	5	$a^5D—z^5F^0$	4—5	3719.93	3.32	0.045	—

(continued to Enclosure 02)

Card 3/6

L 14053-65
ACCESSION NR: AP4044841

ENCLOSURE: 02

(continuation from Enclosure 01)

атомный пучок	поглощение	флуометр, [10]	испускание		
				[1]	[11]
0.060 [15]	—	—	0.062 [8] 0.052 [10]	0.045	0.055
0.046 [15]	0.084 [17]	—	—	0.042	0.077
0.025	0.047	—	—	0.023	0.037
0.043 [16]	0.030 [9]	0.035	—	0.035	0.058
0.032 [9]					

*Measured by anomalous dispersion method and used to reduce our data to absolute scale

Column headings, 1 to r: 1 - Element; 2 - multiplet number; 4 - wavelength, Å; 5 - upper level energy, ev; 6 - present work; 7 - anomalous dispersion; 8 - atom beam; 9 - absorption; 10 - fluometer; 11-13 - emission

Card 4/6

L 14053-65

ACCESSION NR: AP4044841

ENCLOSURE: 03

Элемент	№ мультиплета	Переход	J—J	Длина волны, Å	Энергия верхнего уровня, ев	Абсолютные значения сил осцилляторов в поглощении		
						настоящая работа	Аллен [1]	Кортес и Бозман [23]
Ti	17	$a^3F—x^3F^0$	2—2	3729.81	3.31	0.032	—	0.13
	17	—	4—4	3752.86	3.34	0.037	—	0.14
	56	$a^1D—y^1F^0$	2—3	3904.78	4.06	0.110	—	0.76
	13	$a^3F—y^3D^0$	2—1	3947.67	3.13	0.023	—	0.16
	13	—	3—2	3956.34	3.14	0.016	—	0.12
	13	—	4—3	3959.21	3.17	0.026	—	0.11
	12	$a^3F—y^3F^0$	2—2	3981.76	3.10	0.029	—	0.16
	12	—	3—3	3989.76	3.11	0.029	—	0.14
	12	—	4—4	3998.63	3.13	0.031	—	0.17
	38	$a^5F—y^5G^0$	5—6	4981.73	3.32	0.19 *	—	0.33

Absolute values of oscillator strengths in absorption

Column headings, 1 to r: 1 - element, 2 - multiplet number,
4 - wavelength, Angstroms, 5 - upper level energy, ev
6-8 - Absolute values of oscillatorstrengths in absorption
(continued to Enclosure 04)

Card 5/6

L 14053-65

ACCESSION NR: AP4044841

ENCLOSURE: 04

(continuation from Enclosure 03)

V	7	$a^4F-y^4F^0$	$^9/_2-^9/_2$	3902.25	3.23	0.037	—	0.055
	27	$a^6D-y^6D^0$	$^9/_2-^9/_2$	4111.78	3.30	0.14	—	0.28
	27	—	$^7/_2-^7/_2$	4115.18	3.28	0.077	—	0.16
	22	$a^6D-y^6F^0$	$^9/_2-^{11}/_2$	4379.24	3.12	0.20	—	0.30
Co	22	$b^4F-y^4G^0$	$^9/_2-^{11}/_2$	3453.51	4.00	0.60	0.32	0.46
	18	$b^4F-z^4D^0$	$^9/_2-^7/_2$	3873.12	3.62	0.044	0.023	0.050
	18	—	$^7/_2-^5/_2$	3873.95	3.70	0.036	0.021	0.037
	34	$a^2F-y^2G^0$	$^5/_2-^7/_2$	3894.07	4.21	0.39	0.24	0.40
	31	$a^2F-y^4G^0$	$^7/_2-^9/_2$	3995.31	4.01	0.16	0.093	0.17
Ni	19	$a^3D-z^3F^0$	3—4	3414.76	3.64	0.30	0.066	0.14
	20	$a^3D-z^3D^0$	1—1	3423.71	3.82	0.20	0.051	0.10
	19	$a^3D-z^3F^0$	3—3	3433.56	3.62	0.081	0.024	0.044
	20	$a^3D-z^3D^0$	2—2	3446.26	3.69	0.20	0.052	0.14
	17	$a^3D-z^5F^0$	3—4	3461.65	3.59	0.16	0.038	0.081
	18	$a^3D-z^3P^0$	2—1	3492.95	3.64	0.28	0.059	0.14
	32	$a^1D-z^3F^0$	2—3	3858.30	3.62	0.048	0.022	0.048

*Determined from relative oscillator strengths of titanium lines obtained elsewhere

Card 6/6

L 12905-65 EWT(m)/EWP(t)/EWP(b) IJP(c)/BSD/ESD(gs) JD

ACCESSION NR: AP4047170 S/0051/64/017/004/0483/0488

AUTHORS: Valters, A. K.; Startsev, G. P. B

TITLE: Measurement of the relative oscillator strengths in the spectrum of iron atom by the anomalous dispersion

SOURCE: Optika i spektroskopiya, v. 17, no. 4, 1964, 483-488

TOPIC TAGS: iron, spectrum line, anomalous dispersion, spectrography

ABSTRACT: A total of 89 lines of 17 multiplets of the iron atom, the lower levels of which belong to the terms a^3D and a^3F, were measured by the method of anomalous dispersion in the spectral range 3950--2700 Å. Fifty of these were measured by the method of anomalous dispersion for the first time, and 14 of the lines were determined for the first time. The equipment consisted of a high-temperature vacuum oven, a Rozhdestvenskiy interferometer, and a

Card 1/3

L 12905-65
ACCESSION NR: AP4047170

spectrograph with crossed dispersion. The oven was described in detail by the authors elsewhere (with Ye. I. Nikonova, Opt. i spektr. v. 16, 717, 1964). The Rozhdestvenskiy interferometer was matched to the dimensions of the oven and had a base of 340 mm and an arm length of 2700 mm, with a light diameter 35 mm. The spectrograph used a 60 x 130 mm grating with 300 lines/mm, and made it possible to obtain simultaneously from 4 to 10 orders without superimposition, covering the spectral region from 6700 to 2300 Å. The iron spectra were photographed on negative motion picture film and measured with an IZA-2 comparator. The possible random and systematic errors were carefully analyzed and the measurement accuracy was estimated. The results are tabulated and compared with the data of R. and A. King (Astrophys. J. v. 87, 24, 1938) and others. Possible causes of discrepancies are discussed. "The authors thank Yu. P. Sy*soyev for great help in adjusting the apparatus and obtaining the spectrograms." Orig. art. has: 2 figures, 3 formulas and 1 table.

Card 2/3

L 12905-65
ACCESSION NR: AP4047170

ASSOCIATION: None

SUBMITTED: 30May63 ENCL: 00

SUB CODE: OP NR REF SOV: 008 OTHER: 003

Card 3/3

L 48810-65 EWT(l)/EEC(t) Pl-4

ACCESSION NR: AP5011888 UR/0120/65/000/002/0157/0159

AUTHOR: Kulikov, S. A.; Nikitin, V. G.; Snigirev, Yu. A.; Startsev, G. P.

TITLE: Thyratron-controlled pulse source of ultraviolet radiation

SOURCE: Pribory i tekhnika eksperimenta, no. 2, 1965, 157-159

TOPIC TAGS: ultraviolet source, thyratron

ABSTRACT: Operation of the new ultraviolet source depends on the accumulation of an electric charge in a capacitor and a subsequent discharge through a gap whose breakdown is controlled by a thyratron (TGI1-700/25, hydrogen, 700 amp at a repetition frequency of 400 pulse/sec). A 0.1-μf capacitor is used, and a quartz tube (4 mm in diameter, 100 mm long) serves as the discharge gap; commercial helium flows in the gap. At a repetition frequency of 50 cps, the spectrum in the 2800-500 Å region was studied, as well as the effect of helium pressure on the intensity of an He line and impurity lines. The radiation stability, characterized by the line intensity which is constant within 2—3%, was proven by measuring the reflecting power of lithium fluoride specimens in the 2300—500 Å region. Orig. art. has: 5 figures. [03]

Card 1/2

L 48810-65

ACCESSION NR: AP5011888

ASSOCIATION: Gosudarstvennyy opticheskiy institut (State Optical Institute)

SUBMITTED: 04Mar64 ENCL: 00 SUB CODE: OP, EC

NO REF SOV: 001 OTHER: 004 ATD PRESS: 4003

Card 2/2

L 3891-66 EWT(1)

ACCESSION NR: AP5017494 UR/0368/65/002/006/0546/0549

535.33:535.89

AUTHOR: Krasavin, V. V.; Kulikov, S. A.; Mishchenko, Ye. D.; Startsev, G. P.

TITLE: Measurement of the density of the radiation spectrum of a pulsed source in the far ultraviolet region

SOURCE: Zhurnal prikladnoy spektroskopii, v. 2, no. 6, 1965, 546-549

TOPIC TAGS: UV spectroscopy, emission spectrum, flash lamp

ABSTRACT: This is a continuation of earlier work by the authors (PTE No. 2, 138, 1965) on measurements of the spectrum below 100 nm, where the radiation from a pulsed source with repetition frequency 50 cps and duration 2--3 μsec was described. The original apparatus employed an FEU-29 photomultiplier with a luminescent sodium salicylate screen, and the average current was measured with a microammeter (M-59). In the present investigation the apparatus was improved by using a more sensitive photomultiplier (FEU-39) and replacing the microammeter with an automatic recording peak voltmeter. The recording circuit consists of two blocks, a cathode follower with a set of integrating cells, and the peak voltmeter with its independent power supply. The peak voltmeter circuit is briefly described and a sample of the spectrum in the 90--20 nm region is given. The described circuit has high sensitivity

Card 1/2

L 3891-66
ACCESSION NR: AP5017494

and a resolution of 0.01 nm over the entire region of the spectrum. Orig. art. has: 2 figures and 3 formulas.

ASSOCIATION: none

SUBMITTED: 03Sep64 ENCL: 00 SUB CODE: OP

NR REF SOV: 002 OTHER: 002

Card 2/2

L 63551-65 EWT(l)/EPF(n)-2/EWG(m)/EPA(w)-2/T Pz-6 IJP(c) AT

ACCESSION NR: AP5018838 UR/0368/65/003/001/0003/0008
535.215.4

AUTHOR: Kulikov, S. A.; Mishchenko, Ye. D.; Nikitin, V. G.; Startsev, G. P.

TITLE: Spectral dependence of the quantum yield of metallic and nonmetallic photocathodes in the region of 95—20 mμ

SOURCE: Zhurnal prikladnoy spektroskopii, v. 3, no. 1, 1965, 3-8

TOPIC TAGS: photocathode, quantum yield, photoeffect, photoelectric device, spectral sensitivity

ABSTRACT: The spectral variation of the relative quantum yield of 14 metals and 13 nonmetallic photocathodes was investigated in the extreme ultraviolet spectral region (200—950 Å). The error in the experimentally determined values did not exceed 10%. Table 1 of the Enclosure shows the absolute maximum values of the quantum yields of the materials calculated on the basis of the absolute quantum yield of Pt (G. R. Cook and P. H. Metzger, Journal of chemical physics, v. 41, 1964, p. 321). The wavelengths corresponding to the maxima are approximate. Orig. art. has: 4 figures and 1 table. [CS]

Card 1/3

L 63551-65

ACCESSION NR: AP5018838 0

ASSOCIATION:: none

SUBMITTED: 11Jan65 ENCL: 01 SUB CODE: EC, GP

NO REF SOV: 004 OTHER: 013 ATD PRESS: 4050

Card 2/3

L 63551-65

ACCESSION NR: AP5018838 ENCLOSURE: 01

Table 1. Absolute maximum quantum yields in the region between 200 and 950 Å

Material	Wavelength (mμ)	Q, Yield (electron/photon)	Material	Wavelength (mμ)	Q, Yield (electron/photon)
Cu	73.0	0.17	Pt	48.0	0.15
Au	70.0	0.15	ThO_2	76.5	0.13
Ag	74.0	0.14	ZrO_2	32.5	0.24
Al	73.5	0.23	HfO_2	81.0	0.28
In	80.0	0.07	Al_2O_3	70.5	0.20
Zr	79.0	0.28	Sc_2O_3	30.0	0.23
Ti	78.0	0.19	Nb_2O_5	76.0	0.19
Sn	76.0	0.16	LiF	54.0	0.52
Ta	66.5	0.20	MgF_2	62.5	0.39
Nb	70.0	0.20	SrF_2	43.5	0.39
W	60.0	0.16	CsJ	63.5	0.63
Mo	63.0	0.18	SbS	80.0	0.20
Ni	51.0	0.15	ZnS	75.5	0.20
Fe	77.5	0.15	BeO	58.0	0.53

Card 3/3

L 34939-65 EWT(l)/EWP(e)/EPA(s)-2/EWT(m)/EPF(c)/EPR/EEC(t)/EEC(b)-2/EWP(b)
Pq-4/Pr-4/Ps-4 WH/WW

ACCESSION NR: AP5004209 S/0077/65/010/001/0022/0027

AUTHORS: Morozova, N. G.; Startsev, G. P.

TITLE: Investigation of the spectral properties of photographic materials in the vacuum ultraviolet region of the spectrum

SOURCE: Zhurnal nauchnoy i prikladnoy fotografii i kinematografii, v. 10, no. 1, 1965, 22-27

TOPIC TAGS: photographic emulsion, photographic film, photographic sensitivit photographic image theory, ultraviolet photography, spectrosensitometry

ABSTRACT: The purpose of the investigation was to develop equipment and a procedure for spectrosensitometric tests of photographic emulsions, and to use the procedure to investigate the properties of certain types of emulsions intended for the registration of short-wave ultraviolet radiation. Calibration was by means of a photoelectric method using a screen of sodium salicylate, whose fluorescence quantum yield is constant over a wide wavelength range. An SP-99 vacuum spectrograph was used to investigate the photographic sensitivity of the material. The light source was a high-voltage discharge in a hydrogen stream, and the light due to

Card 1/4

L 34939-65

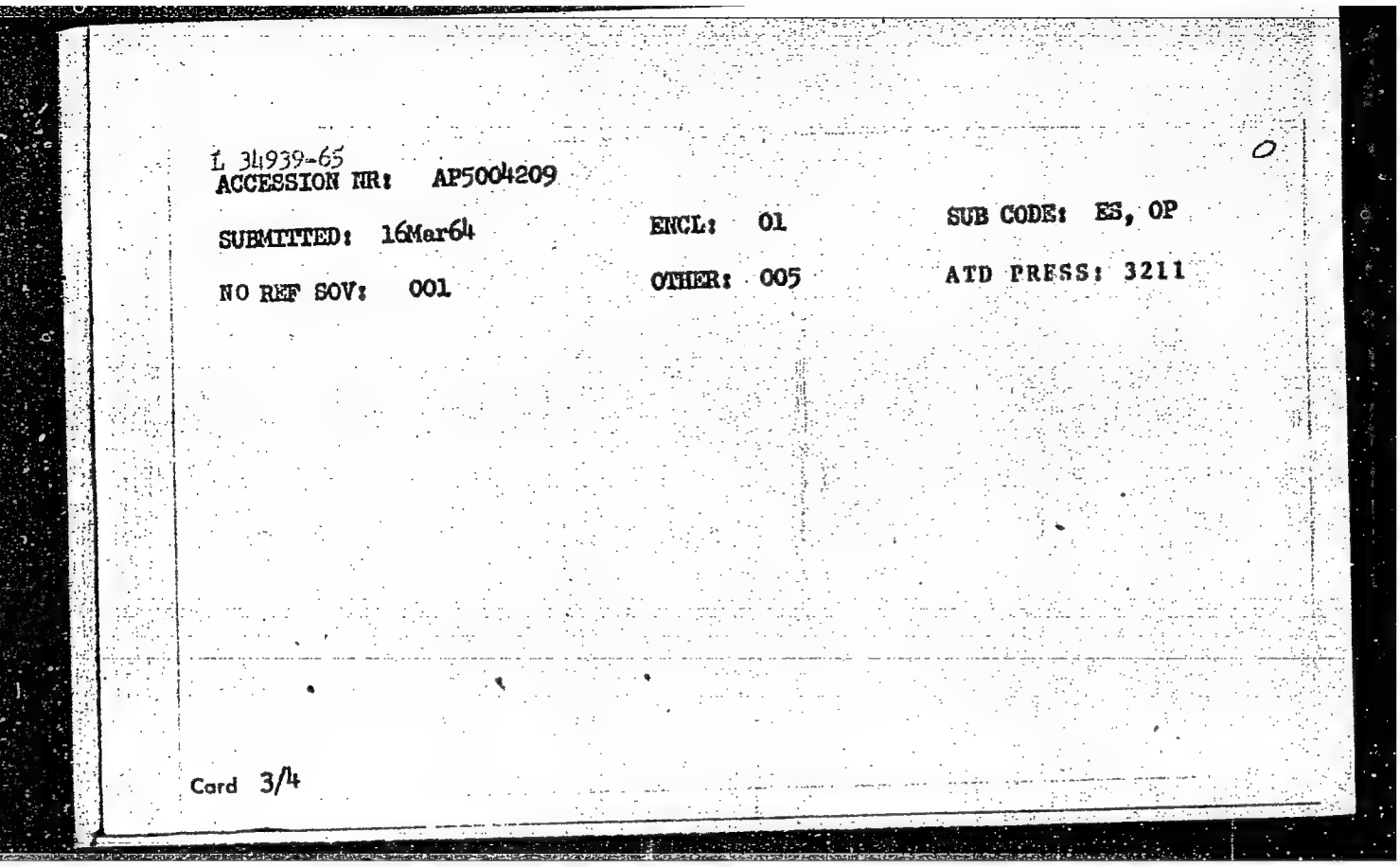
ACCESSION NR: AP5004209

4

fluorescence was transmitted from the output slit of the spectrograph to the photomultiplier by means of a glass-fiber lightguide 8 mm in diameter. The characteristic curves of the photographic materials in the vacuum ultraviolet region were determined by varying the intensity in three ways: by broadening the spectrograph slit, by attenuating the beam with screens of varying meshes, and by using different groups of spectral lines in the hydrogen spectrum. The first two gave almost identical results and are suitable only for the continuous spectrum, at wavelengths 1700—2500 Å. Seven groups of lines in the molecular spectrum of hydrogen, spaced approximately 100—150 Å apart, were used in the region from 1000 to 1640 Å. The results show that the characteristic curve is practically linear for all wavelengths, and with slight exception the contrast of the NIKFI emulsions is practically constant. The characteristic curves, contrast curves, and spectral sensitivity curves for several NIKFI emulsions are shown in Fig. 1 of the Enclosure. The investigated photographic materials were developed at NIKFI and were supplied by V. M. Uvarova, to whom the authors are grateful." Orig. art. has: 7 figures and 3 tables. [02]

ASSOCIATION: Gosudarstvennyy opticheskiy institut im. S. I. Vavilova (State Optical Institute)

Card 2/4



L 34939-65
ACCESSION NR: AP5004209

SUBMITTED: 16Mar64 ENCL: 01 SUB CODE: ES, OP

NO REF SOV: 001 OTHER: 005 ATD PRESS: 3211

Card 3/4

L 34939-65

ACCESSION NR: AP5004209

ENCLOSURE: 01

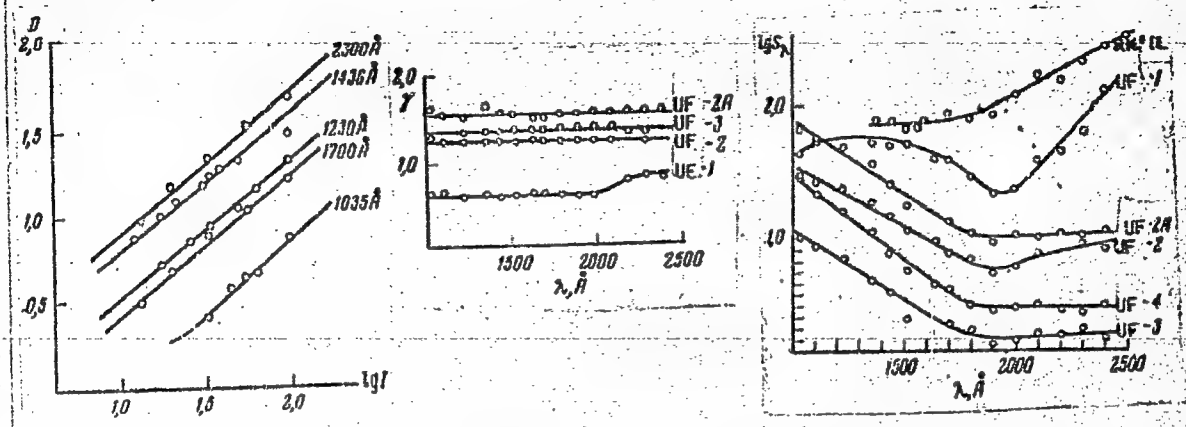


Fig. 1. Characteristic curves (left), contrast curves (center), and spectral sensitivity curves for some NIKFI emulsions.

Card 4/4

KOSINSKAYA, I.V.; STARTSEV, G.P.

Cross section of oxygen absorption in the vacuum region of the spectrum. Opt. i spektr. 18 no.4:735-736 Ap '65. (MIRA 18:8)

L 52326-65 EWT(m)/EWP(b)/EWP(t) IJP(c) JD

ACCESSION NR: AP5012625 UR/0051/65/018/005/0899/0902

12
B

AUTHOR: Morozova, N. G.; Startsev, G. P.

TITLE: Measurement of the relative values of oscillator strengths in the spectrum of the iron ion

SOURCE: Optika i spektroskopiya, v. 18, no. 5, 1965, 899-902

TOPIC TAGS: iron ion, oscillator strength, relative intensity, intermediate coupling approximation, LS coupling, diffraction pattern

ABSTRACT: In view of the lack of experimental data on the $3d^6(a^5D)4s-3d^6(a^5D)4p$ transition for iron, the authors measured the oscillator strength of the lines of the following intense multiplets in the spectrum of the iron ion

$a^6D - z^6D^0$ (№1), $a^6D - z^6F^0$ (№2),
$a^6D - z^6P^0$ (№3), $a^4D - z^4F^0$ (№62),
$a^4D - z^4D^0$ (№63), $a^4D - z^4P^0$ (№64).

Card 1/2

L 52326-65

ACCESSION NR: AP5012625

which lie in the ultraviolet region of the spectrum between 2300 and 2800 Å. The spectra were photographed with a diffraction spectrograph in first and second order, with dispersion 4 and 2 Å/mm, respectively. The spectrum was excited with a d-c arc operating in such a way that self-absorption did not distort the intensities of the spectral lines. A table is presented of the logarithms of the relative values of the oscillator strengths obtained in the measurements and calculated in the intermediate-coupling and in the LS coupling approximations. Some suspected errors in the table of C. H. Corliss and W. R. Bozman (Experimental Transition Probabilities for Spectral Lines of Seventy Elements, N. B. S., 1962) are indicated. Orig. art. has: 1 figure and 1 table. [02]

ASSOCIATION: none

SUBMITTED: 19May64 ENCL: 00 SUB CODE: OP

NO REF SOV: 003 OTHER: 002 ATD PRESS: 4009

Card 2/2

L 26604-66 EWT(1)

ACC NR: AP6010451 SOURCE CODE: UR/0368/66/004/003/0267/0269

AUTHORS: Mishchenko, Ye. D.; Kulikov, S. A.; Startsev, G. P.

58
B

ORG: none

TITLE: Cathodoluminescent receiver of the open type for short wave ultraviolet radiation

SOURCE: Zhurnal prikladnoy spektroskopii, v. 4, no. 3, 1966, 267-269

TOPIC TAGS: cathodoluminescence, uv radiation, uv receiver, electron multiplier, secondary electron emission, luminophor, quantum yield

ABSTRACT: The authors describe a radiation receiver which begins to operate stably at pressures 1 N/m^2 at relatively low supply voltage, of the order of 600 V. At 200 V its sensitivity becomes equivalent to that of a secondary electron multiplier of the open type. The receiver is based on the principle of electronic conversion of light, wherein the ultraviolet radiation incident on the cathode knocks out electrons that are focused by an immersion objective onto a cathode

Card 1/3 UDC: 621.383.4

L 26604-66
ACC NR: AP6010451

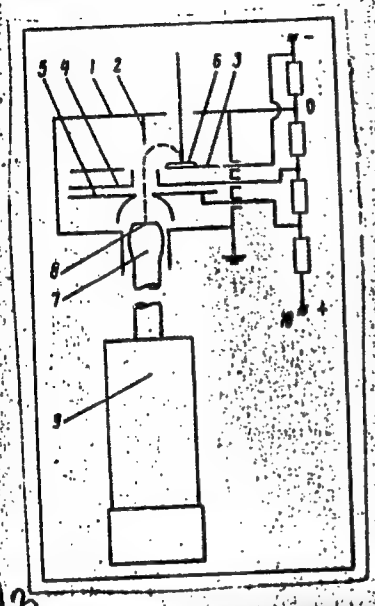


Fig. 1. Diagram of radiation receiver. 1 -- Brass cylinder, 2 -- focusing rod, 3 -- control electrode, 4 -- focusing diaphragm, 5 -- anode, 6 -- cathode, 7 -- light pipe, 8 -- cathode luminophor, 9 -- photomultiplier, 10 -- high voltage terminal.

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ACC NR: AP6010451

luminophor. The glow of the luminophor excited by the electrons is recorded with a photomultiplier. The main difference between this receiver and the scintillation receiver is the use of an efficient luminophor and the absence of an aluminum layer on the luminophor. The photocurrent is linearly related to the incident light flux and its sensitivity depends on the voltage applied to the electrodes. The sensitivity depends little on the pressure. By using different luminophors it is possible to modify the properties of the receiver for individual applications (registration of constant and pulsed light flux without afterglow, registration of pulsed light fluxes against the background of strong electric interference, and others). The spectral dependence of the quantum yield can be modified by using different cathodes. Orig. art. has: 3 figures, 1 formula, and 1 table.

SUB CODE: 20/ SUBM DATE: 24Feb65/ OTH REF: 003

L 00830-67 EWP(m)/EWA(d)/EWP(t)/ETI IJP(c) JD
ACC NR: AP6029907 (A,N) SOURCE CODE: UR/0413/66/000/015/0075/0075

INVENTORS: Startsov, G. P.; Ivanova, M. K.; Baranov, S. A.

ORG: none

TITLE: Apparatus for deposition of highly reflecting multilayer deposits. Class 32, No. 184401

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 75

TOPIC TAGS: light reflection, reflectometer, reflectoscope, glass, photometer, ionization chamber

ABSTRACT: This Author Certificate presents an apparatus for the deposition of highly reflecting multilayer deposits on glass objects. The apparatus consists of a vaporizing chamber, glass vacuum cover, forevacuum and diffusion pumps, and a photometric installation. To insure a total covering of the area near that of the glass area to be covered and to determine the maximum reflectivity of the deposit in the spectral region of 1200 Å, a low-voltage hydrogen light source with an intense 1216 Å line is used in the photometric installation. An ionization chamber serves as a detector. The sensitivity of the latter extends from 1100—1300 Å

UDC: 666.1.056:666.266.4.002.2.002.5

Card 1/2

L 10305-67

ACC NR: AP6029907

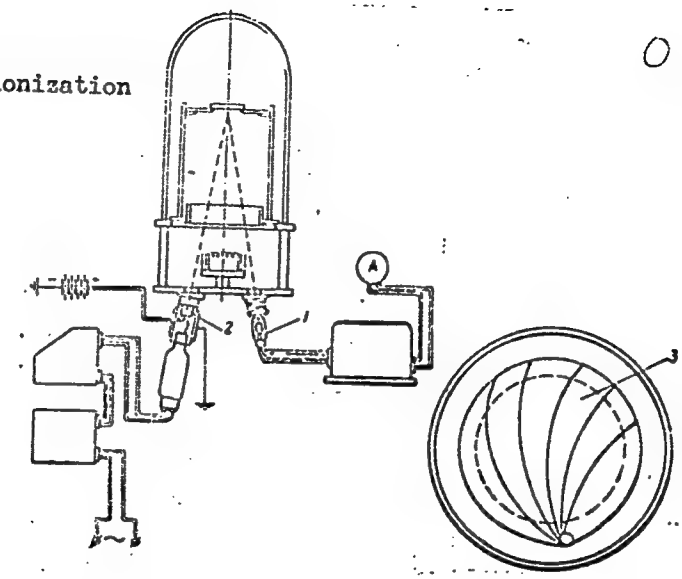

Fig. 1. 1 - hydrogen lamp; 2 - ionization chamber; 3 - diaphragm

with a maximum at 1216 Å. The diaphragm is made from curvilinear plates (see Fig. 1). Orig. art. has: 1 figure.

Card 2/2 SUB CODE: 07,21 SUBM DATE: 17Mar64

ACC NR: AP7000023 SOURCE CODE: UR/0051/66/021/005/0532/0537

AUTHOR: Kozlov, M. G.; Nikonova, Ye. I.; Startsev, G. P.

ORG: none

TITLE: Absorption spectra in the vacuum region of aluminum-group metal vapors. I. Thallium and aluminum

SOURCE: Optika i spektroskopiya, v. 21, no. 5, 1966, 532-537

TOPIC TAGS: aluminum, thallium, metal vapor, absorption spectrum, absorption edge, ionization potential, line spectrum, continuous spectrum, oscillator strength

ABSTRACT: The authors investigate the absorption spectra of aluminum and thallium vapor in the spectral region 210 - 150 nm, in which are located the ionization continua and the lines corresponding to electron transitions to levels lying above the first ionization potential of the atom. The spectra were obtained with a continuous-spectrum source (hydrogen discharge in quartz capillary), a vacuum oven with graphite heating element (described in Opt. i spektr. v. 16, 717, 1964), and a spectrograph. The thallium spectrum, photographed at 1030 - 1200K, consists of a series of lines converging to a limit at 203.0 nm, a strong line at 200.7 nm corresponding to a transition from the ground state to $6s6p^2\ {}^4P_{3/2}$, and a very broad line below 170.0 nm corresponding to the transition $6s^26p\ {}^2P^0_{1/2} - 6s6p^2\ {}^2D_{3/2}$. The maximum absorption cross section of the ionized continuum is 4.0 megabarn (Mb) at 203.0 nm at the edge of the series. The oscillator strength of the 200.7 nm line is 4×10^{-3}. The lifetime of the correspond-

Card 1/2 UDC: 535.341: 543.420.62

ACC NR: AP7000023

ing $6s6p^2\ {}^4P_{3/2}$ state is 4×10^{-14} sec. The aluminum spectra were photographed at temperatures 1400 - 1700K. The absorption spectrum consists of a series of lines converging to a limit 207.0 nm, two lines at 193.6 and 193.2 nm corresponding to the $3s^23p\ {}^2P^0 - 3s3p^2\ {}^2S$ transition, which are of interest in view of the sharp gap observed in this vicinity in the solar spectrum, and a quartet of lines between 176.1 and 177.0 nm, corresponding to the transition $3s^23p\ {}^2P^0 - 3s3p^2\ {}^2P$. The obtained oscillator strengths for the 193.6 and 193.2 lines, 0.21 and 0.25 respectively, do not agree with other published data. The oscillator strengths obtained for the quartet range from 0.002 to 0.008. There are no published data to compare with them. The aluminum absorption cross sections range from 100 Mb for the continuum to 120 - 164 Mb for the lines. The lifetimes range from 1.2 to 6.7×10^{-13} sec. Orig. art. has: 4 figures, 3 formulas, and 1 table. [02]

SUB CODE: 20/ SUBM DATE: 12Jul65/ ORIG REF: 005/ OTH REF: 008/
ATD PRESS: 5109

Card 2/2

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